CLAIMS

We claim:

1.   A method comprising:

generating a first set of color values in a first color space;

dithering said first set of color values to generate second sets of color values; and

transforming said second sets of color values to a second color space in a display system to approximately reproduce said first set of color values.

2.   The method of Claim 1 where each of said color values in said first set of color values comprises N bits, and wherein said dithering comprises:

truncating a least significant bit (LSB) of each color value in said first set of color values to obtain truncated color values; and

adding said LSB of each color value to a next color value.

3.   The method of Claim 1 wherein said first set of color values comprises 8 bits/plane red, green, and blue (RGB) values, said dithering comprising truncating a least significant bit of each color value in said first set of color values to generate 7 bits/plane RGB values.

4.   The method of Claim 1 wherein said transforming comprises transforming said second sets of color values into a printer color space.

5.   The method of Claim 4 wherein said first set of color values comprises 8 bits/plane RGB values, said second sets of color values comprise 7 bits/plane RGB values, and colors in said second color space comprises 8 bits/plane primary colors in said display system.

6.   The method of Claim 1 wherein color values in said first color space comprise RGB values, and color values in said second color space comprise cyan, magenta, and yellow (CMY) values.

7.   The method of Claim 1 wherein said dithering comprises adding noise to each of said color values in said first set of color values.

HP 10990532-1

8.	The method of Claim 7 wherein said adding noise comprises subtracting one from a color value, adding one to a color value, or not affecting said color value.

9.	The method of Claim 7 wherein said noise is predetermined, random, or pseudo-random.

10.	The method of Claim 1 wherein said transforming comprises applying said second sets of color values to a look-up table to transform said second sets of color values to said second color space.

11.	The method Claim 1 wherein said transforming comprises performing an algorithm on said second sets of color values to transform said second sets of color values to said second color space.

12.	The method of Claim 1 wherein said generating a first set of color values comprises generating color values on a computer in an RGB color space for display on a monitor.

13.	The method of Claim 12 wherein said transforming transforms dithered RGB values to said second color space for printing by a printer.

14.	The method of Claim 1 wherein said transforming generates transformed color values, said method further comprising printing said transformed color values.

15.	The method of Claim 1 wherein said transforming generates transformed color values, said method further comprising halftoning said transformed color values.

16.	The method of Claim 15 wherein said halftoning generates halftoned color values, said method further comprising printing said halftoned color values by an inkjet printer.

17.	The method of Claim 1 wherein said dithering generates at least two second sets of color values for a first set of color values.

18.   An apparatus comprising:

a dithering device having as inputs a first set of color values in a first color space, said dithering device outputting second sets of color values for a first set of color values; and

a transformer receiving said second sets of color values and transforming said second sets

5   of color values to a second color space for being displayed in a display system.

19.   The apparatus of Claim 18 wherein said dithering device truncates a least significant bit (LSB) of each color value in said first set of color values and adds said LSB to a next color value.

10

20.   The apparatus of Claim 18 wherein said dithering device adds noise to said first set of color values.

21.   The apparatus of Claim 18 wherein said first color space is an RGB color

15   space and said second color space is that used by a printer.

22.   The apparatus of Claim 21 wherein said second color space is a CMY color space.

20   23.   The apparatus of Claim 21 wherein said second color space is a CMYK color space.